

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON

NORTH AMERICAN HARPACTICOID COPEPODS  
5. THE STATUS OF *ATTHEYELLA AMERICANA*  
(HERRICK) AND THE CORRECT NAME FOR THE  
SUBGENUS *BREHMIELLA*

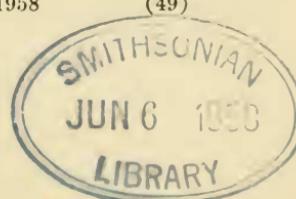
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Herrick (1884) correctly recognized that the form to which he gave the name *Canthocamptus northumbicus* var. *americanus* is related to a species widely distributed in Eurasia and now known as *Attheyella dentata* (Poggapol), on the authority of Gurney (1932) and of Lang (1948). Records of this group in American literature are listed as the variety or subspecies *americanus* or simply as *northumbicus*. Lang (1948) has referred American records to the subspecies *americanus*, but as pointed out (M. S. Wilson, 1956), the typical form of *dentata* does occur in North America, having been found in collections from Alaska and western Canada.

The additional presence on the Continent of another species of the *dentata* group, *Attheyella dogieli* (Rylov) makes somewhat uncertain the identity of the specimens in published records not substantiated by description or available specimens. Alaskan and Canadian specimens of *dentata* agree very closely with Gurney's (1932) detailed description of British specimens. The species *digieli* known from Manchuria (Rylov, 1923) and Japan (Chappuis, 1955) is closely related to *dentata*, but distinctly separable from it. In well-collected areas of Alaska, these two species occur throughout the same geographic regions and drainage systems. Although *digieli* has been found more frequently in the marginal waters of large lakes, it has also been collected in ponds, pools and other small bodies of water that are on the whole more characteristic for *dentata*. On a basis of morphology and sympatric distribution, it is correct to consider these as two separate species.

Comparative studies of specimens and literature of the three forms now known to occur in North America point up structural characters in *americana* that have equal taxonomic value with those separating *dentata* and *digieli*. Moreover, *americana* possesses an important individual distinction in the modification of the endopod of the male third leg.



For these reasons, Herrick's form is herein raised to the status of a species.

*Attheyella (Mrázeekiella) americana* (Herrick)

*Canthocamptus northumbicus*, var. *americanus*, var. n., Herrick 1884: 170, Pl. O, figs. 6-14, 20-22; 1895: 130, Pl. 29, figs. 6-14, pl. 33, figs. 3-5.

? *Attheyella northumbrioides* Willey 1925a: 155; 1925b: 206.

? *Attheyella willeyi* (nom. nov. for *northumbrioides*) Kiefer 1929: 323.

*Attheyella (Brehmiella) northumbrica* subsp. *americana*, Chappuis 1929a: 48; 1929b: 488; 1931: 359 (refers *northumbrioides* and *willeyi* to *n. americana*).

*Attheyella northumbrica americana*, Kiefer 1931: 604, figs. 53-55.

*Attheyella northumbrica americana*, Coker 1934: 106, Pl. 6, Pl. 7, figs. 3-5.

*Attheyella (Brehmiella) dentata* subsp. *americana*, Lang 1948: 977, fig. 387a.

*Attheyella dentata americana*, M. S. Wilson 1956: 293.

The above references include only those of significance in synonymy and nomenclature. The name *northumbrioides* is listed with a question mark because Willey's description, unaccompanied by figures, does not seem sufficiently precise to indicate which of the three American species he actually had. The known distribution, as determinable from substantiated records, includes Minnesota (Herrick, 1884, 1895), Wisconsin and North Carolina (Coker, 1934), and Connecticut (Kiefer, 1931). Willey's questionable record is from Quebec. In addition, the species has been reported from Massachusetts (Pearse, 1906) Bear Lake, Idaho (Kemmerer et al, 1923), and Michigan (Kenk, 1949). Marsh's (1926) record of Florida specimens are listed only as *northumbicus*, but are probably referable to *americana*; other references in the literature to *northumbicus* that may or may not bear the same interpretation are those of Moore (1939) from Michigan, and of Ewers (1930) and Ward (1940) from Ohio.

New records of *Attheyella americana* from my collections are:

Florida: Lake Jackson, Leon Co., April 3, 1950, Murray Voth, coll.

Louisiana: roadside ditch, 1 mile west of Clarence, Natchitoches Parish, Feb. 11, 1956, J. E. Sublette, coll.

The most complete and reliable description of *americana* is that of Coker (1934). Herrick's description and figures leave no doubt that Coker's specimens are referable to the same form. Important in the characterization of the species is the very short caudal ramus (considerably shorter than the anal segment in both sexes), without dorsal or distal sclerotization as found in *dentata* and *dogieli*, and with the lateral setae placed far apart, the distal seta being attached near the apex.

Specimens of *americana* that I have examined agree with Herrick's and Coker's figures of the male third leg which has the second segment of the endopod elongate and produced into a weakly developed hypophysis. The slenderness and shortness of the hypophysis is in strong contrast to the stoutly developed and strongly outcurved process of *dentata* and *dogieli*. The specific importance of distinctive modification of any part of this appendage, particularly when it departs noticeably

from the structure of closely related species, cannot be underestimated in the phylogeny and taxonomy of any canthocamptid.

The three known species of the *dentata* group in North America are separable by the following key:

1. Caudal ramus ♀ ♂, outer marginal setae placed close together and the outer distal edge of ramus continued as rounded sclerotization overlying the bases of the apical setae. Leg 5 ♀ ♂, exopod segment elongate, ♀ length from 2-3 times the greatest width, ♂ length about 2.6 times greatest width.

*Attheyella dogieli* (Rylov) 1923

Caudal ramus ♀ ♂, outer marginal setae not arising from same place, the inner distal edge of ramus not continued as sclerotization. Leg 5 ♀ ♂, exopod not so elongate. . . . . 2

2. Caudal ramus ♀ ♂ about as long as last body segment; on dorsal face of ♀ ramus a prominent triangular or semi-rectangular sclerotization. Leg 5 ♀ greatly broadened in basal portion. Leg 3 ♂, hypophysis of endopod strongly developed (enlarged and outcurved at base and reaching beyond apex of endopod by about half of its own length).

*Attheyella dentata* (Poggendorf) 1874

Caudal ramus ♀ ♂ shorter than last body segment, about as broad as long, without sclerotization on dorsal face. Leg 5 ♀ not greatly broadened in basal portion. Leg 3 ♂, hypophysis of endopod weakly developed (hardly enlarged and not outcurved at base, reaching beyond endopod by only about one-third of its length).

*Attheyella americana* (Herrick) 1884

The Correct Name for *A. (Brehmiella)* Chappuis

*Attheyella dentata* is the type species of the subgeneric grouping named *Brehmiella* by Chappuis (1929a). Attention was drawn by Brehm (1949) to the fact that this name is preoccupied by *Brehmiella* Pascher 1928. Brehm proposed the new name *Mrázeckielia* for *Brehmiella* Chappuis. This appears to have been overlooked by specialists in the Harpacticoida, and so far as is known, the name has not yet been used in the literature. Since Brehm's nomenclature correction is valid, the name for the subgenus of which *A. dentata* is the type species, is *Mrázeckielia* Brehm 1949.

LITERATURE CITED

- Brehm, Vineenz. 1949. Prioritätsbedingte Namensänderung. Arch. Hydrobiol., 42: 515.  
Chappuis, P.-A. 1929a. Revision du genre *Canthocamptus* Westwood (Note préliminaire). Bull. Soc. Sci. Cluj, 4: 41-50.  
— 1929b. Die Unterfamilie der Canthocamptinae. Arch. Hydrobiol., 20: 471-516.  
— 1931. Campagne spéléologique de C. Bolivar et R. Jeannel dans l'Amérique du Nord (1928). 4. Crustacés Copépodes. Arch. Zool. Exper. Gen.) 71: 345-360, 22 figs.  
— 1955. Harpacticoides troglobies du Japon. Notes Biospeol., 10: 183-190, 29 figs.  
Coker, Robert E. 1934. Contribution to knowledge of North American fresh water harpacticoid copepod Crustacea. Jour. Elisha Mitchell Sci. Soc., 50: 75-141, pls. 1-15.

- Ewers, Lela A. 1930. The larval development of freshwater Copepoda. Ohio State Univ. Franz Theo. Stone Lab. Contrib. no. 3: 1-43, pls. 1-13.
- Gurney, Robert. 1932. The British Fresh-Water Copepoda. Vol. 2. 336 pp., figs. 345-1195. Ray Society, London.
- Herrick, C. L. 1884. A final report on the Crustacea of Minnesota included in the orders Cladocera and Copepoda. 12th Ann. Rept. Geol. Nat. Hist. Survey Minnesota for 1883, pp. 3-191, pls. A-V.
- \_\_\_\_\_. 1895. Copepoda of Minnesota. in: C. L. Herrick and C. H. Turner, Synopsis of Entomostraca of Minnesota. Zool. Ser. II, Geol. Nat. Hist. Survey Minnesota. 525 pp., 81 pls.
- Kemmerer, George, J. F. Bovard and W. R. Boorman. 1923. Northwestern lakes of the United States: biological and chemical studies with reference to possibilities in production of fish. Bull. Bur. Fish., 39: 39-140, 22 figs., 13 tables.
- Kenk, Roman. 1949. The Animal Life of Temporary and Permanent Ponds in Southern Michigan. Misc. Publ. Mus. Zoology, Univ. Michigan, no. 71, 66 pp., pls. 1-2, 7 figs.
- Kiefer, F. 1929. Beiträge zur Copepodenkunde (XIII). Zool. Anz., 83: 319-325, 19 figs.
- \_\_\_\_\_. 1931. Zur Kenntnis der freilebenden süßwassercopepoden, insbesondere der Cyclopiden Nordamerikas. Zool. Jahr., 61: 579-620, 55 figs.
- Lang, Karl. 1948. Monographie der Harpacticiden., 2 vols., 1683 pp., 610 figs. Lund.
- Marsh, C. Dwight. 1926. On a collection of Copepoda from Florida with a description of *Diaptomus floridanus*, new species. Proc. U. S. Natl. Mus., 70, art. 10, 4 pp., 6 figs.
- Moore, George M. 1939. A limnological investigation of the microscopic benthic fauna of Douglas Lake, Michigan. Ecol. Monogr., 9: 537-582, pls. 1-3, 13 figs.
- Pearse, A. S. 1906. Fresh-water Copepoda of Massachusetts. Amer. Nat., 40: 241-251, 9 figs.
- Rylov, V. M. 1923. On the eucopepodean fauna of Mantshuria. Ann. Mus. Zool. Sci. Russia, 24: 52-95, pls. 1-3.
- Ward, Elizabeth. 1940. A seasonal population study of pond Entomos-traca in the Cincinnati region. Amer. Midl. Nat., 23: 635-691, 11 figs.
- Willey, Arthur. 1925a. Northern Cyclopidae and Canthocamptidae. Trans. Royal Soc. Canada, 3rd Ser., 19: 137-158, pls. 1-3.
- \_\_\_\_\_. 1925b. Copepods in the northern hemisphere. Nature, 116: 206, 1 fig.
- Wilson, Mildred Stratton. 1956. North American Harpacticoid Copepods. 1 and 2. Trans. Amer. Micr. Soc., 73: 290-307, 20 figs.